Convex Lenses

Spoken Tutorial Project
https://spoken-tutorial.org
National Mission on Education through ICT
http://sakshat.ac.in

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15 April 2020

Learning Objectives

- **Change the focal length and see the kind of image formed**

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- **Change the focal length and see the kind of image formed**
- **Change the object distance and object height and see the kind of image formed**

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- Change the focal length and see the kind of image formed
- Change the object distance and object height and see the kind of image formed
- Calculate the magnification and length of the telescope tube

System Requirements

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- **Ubuntu Linux OS v 16.04**

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- **Firefox Web Browser v 62.0.3**

Pre-requisities

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- **Learner should be familiar with Apps on Physics**

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- **For pre-requisites tutorials please visit this site https://spoken-tutorial.org**
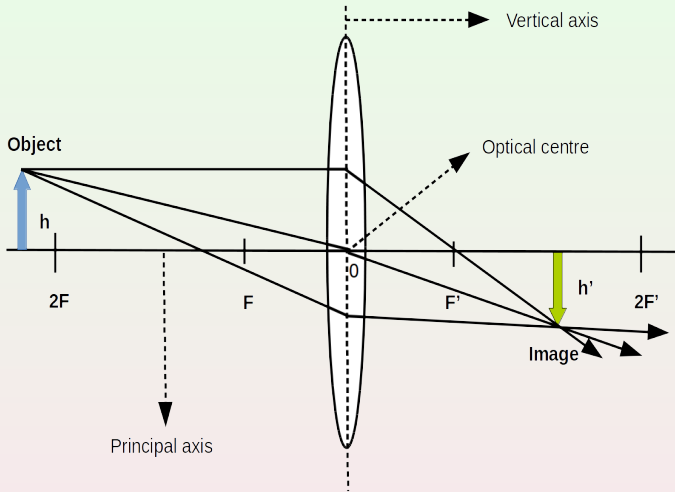
Apps on Physics

- **Image Formation by Converging Lenses**

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- **Refracting Astronomical Telescope**

Converting Lens Ray Diagram

Ray Diagram of Convex lens

Assignment

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- **Change the focal length of a convex lens to 10 cm and its object distance to 15 cm**

- Change the focal length of a convex lens to 10 cm and its object distance to 15 cm
- What characteristics of the image do you observe?

Telescope Tube

- **Length of the tube is the sum of focal lengths of objective and eyepiece**

$$L = f_1 + f_2$$

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  $$= 0.50 + 0.10$$
  $$= 0.6m$$

Assignment

- **An astronomical telescope has an objective of focal length 0.45 m and an eyepiece of focal length 0.25 m**
- **Find the magnification produced by the telescope**
- **Verify the calculated value with the one shown in the App**

Summary

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- Changed the focal length and seen the kind of image formed
- Changed the object distance and object height and seen the kind of image formed
- Calculated the magnification and length of the telescope tube

Acknowledgement

- **These Apps were created by Walter-fendt and his team**

About the Spoken Tutorial Project

- **Watch the video available at https://spoken-tutorial.org /What_is_a_Spoken_Tutorial**
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Spoken Tutorial Workshops

The Spoken Tutorial Project Team

- **Conducts workshops using spoken tutorials**
- **Gives certificates to those who pass an online test**
- **For more details, please write to contact@spoken-tutorial.org**

Forum for specific questions

- **Questions in THIS Spoken Tutorial?**
- **Visit https://forums.spoken-tutorial.org**
- **Choose the minute and second where you have the question**
- **Explain your question briefly**
- **The Spoken Tutorial project will ensure an answer**

You will have to register to ask questions

Acknowledgement

Spoken Tutorial project is supported by

- **National Mission on Education through ICT (NMEICT)**
- **Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT)**

MHRD, Government of India